MINICOM
ADVANCED SYSTEMS

Remote Power Switch

Operating Guide

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1. Introduction

Use the Remote Power Switch (RPS) to turn electric outlets on or off. You can control the RPS manually or from a Web interface. You can also connect to the RPS via modem. With the SNMP card panel you get temperature, humidity information.

2. RPS features

- Provides SNMP MIB to monitor & control devices
- Auto-sensing 10M/100M fast Ethernet
- Manage and configure via Telnet, Web Browser or NMS (MIB)
- Supports TCP/IP, UDP, SNMP, Telnet, SNTP, PPP, HTTP, SMTP Protocols
- Send both SNMP Traps and E-mail for event notification.
- Auto-email daily history report
- SNMP card: Environment Measurement (Optional Kits), External modem dial in/out via PPP protocol to control devices
- Integral 10/100 Base-T Ethernet port for connection to your TCP/IP network
- Dial in by modem to control power
- Address-specific IP security masks prevent unauthorized sources from accessing the RPS menu through the network
- NMS support to control RPS through MIB. Can also use MIB to develop application interface
- Download data and events log list to server
- When events occur, RPS can notify user by email and traps according to pre-configures instructions
- Avoids in-rushes at start-up. You can configure the sequence in which power is turned on/off for each outlet. Thus avoiding overloaded circuits and dropped loads. Predetermine which piece of equipment is turned on first so other equipment dependant on that unit will function properly
- Supports Windows 2000 and later and Linux to execute safe shutdown and reboot.

3. Applications

Monitor and control power devices

Monitor and control power devices through a Web browser. For example when encountering abnormal power conditions you can send the trap information to the system manager to take action.

Monitor environmental data

The SNMP card includes a temperature and humidity sensor. This environmental data appears in the RPS Web interface. When encountering abnormal environmental conditions, you could send a trap to the system manager and/or activate some pre-set action.

4. RPS LEDs

Figure 1 illustrates the LEDs on the RPS Manager and Slave units.

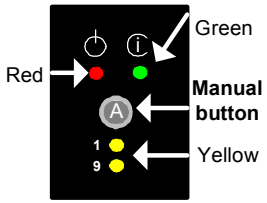

Figure 1 RPS LEDs + manual button

LED	On	Off	Flashing
Red **Power**	The outlet is powered on	The outlet is powered off	The outlet has an internal fault.
Green **Remote control**	The outlet is controlled via the Web	The outlet is controlled manually	To change from Web to manual control. Press and hold the manual button for 3 seconds. During these 3 seconds the LED flashes

Yellow **ID number**	Indicates the RPS ID number. The master displays all the connected RPS ID numbers. The slave displays its own ID number

5. SNMP card LEDs and Reset button

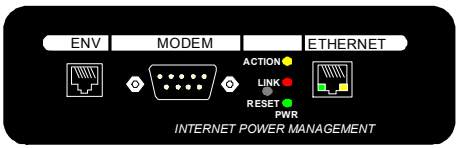

Figure 2 SNMP card

SNMP card LEDs

Yellow	Red	Green	Status
Off	Off	On	Power on
Flashing	On	On	System initializing
On	Off	On	Normal operation
On	Flashing	On	Connecting to incorrect device
Flashing	Flashing	On	Firmware updating

LAN Port LED	
Green	On: Internet speed is 100M Flashing: Data transmitting
Yellow	On: Internet speed is 10M Flashing: Data transmitting

SNMP card Reset button

The Reset button erases all passwords, but does not reset other parameters.

To reset the SNMP card:

1. Press and hold the reset key.
2. Turn on the power source of the SNMP card
3. Wait 30 seconds. All passwords are erased, usernames are unaffected.

6. Operating the RPS manually

You can operate the RPS manually using the manual buttons on the front panel. See Figure 1.

When a power outlet is in manual mode, you cannot operate it via the Web. When the green LED is off, the outlet is in manual mode. When it is on the outlet is in Web mode. To change from manual mode to Web mode and vice versa, press and hold the manual button for 3 seconds. The green Led flashes and the mode is changed.

In manual mode simply press the manual button to switch the outlet on or off. The red LED on indicates the socket is powered on. The red LED off indicates the socket is powered off.

7. Operating the RPS via the Web

To open the Web interface:

1. Type the RPS IP address into your Web browser. The Enter Network Password box appears. Initially there is no Username or password. Setting a user name and password, is explained on page 12.
2. Click **OK**. The RPS Web interface appears. See Figure 3.

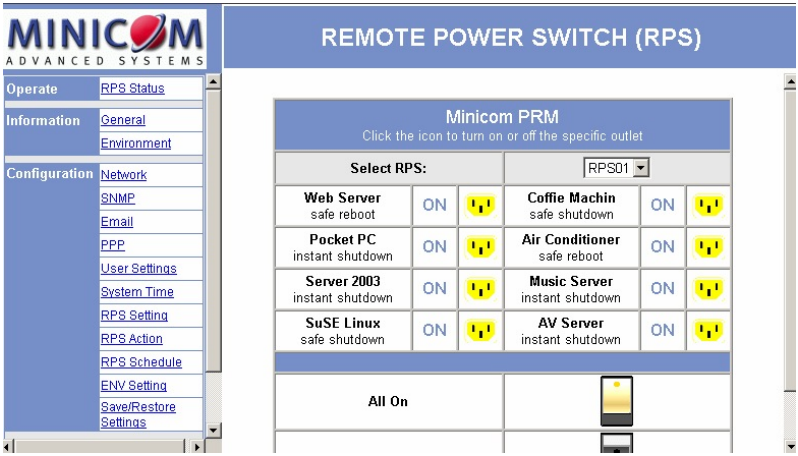

Figure 3 RPS Web interface

The menu is divided into 4 sections. Each section will be explained

8. RPS Status

The RPS Web interface opens at RPS Status window, see Figure 4.

Here you see the status of the outlets of the RPS. Where there is more than 1 RPS connected, select the desired RPS from the Select RPS drop-down menu. The outlets for that switch appear.

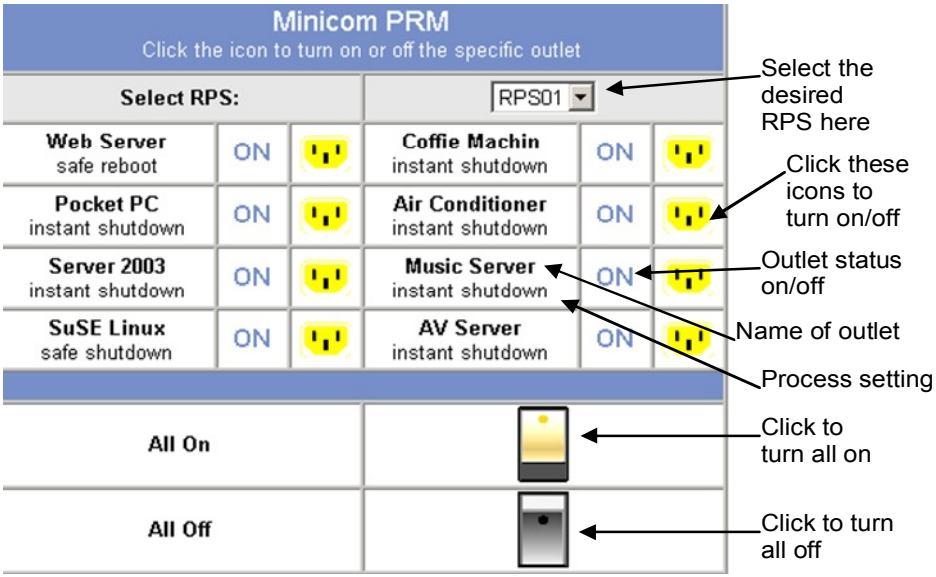

Figure 4 RPS Status window

The process setting that appears under the name of each outlet could be any of the following:

Process setting	Meaning
Non-internet	The outlet is currently controlled via the manual button. See page 3
Instant shutdown	Power turns off immediately
Safe shutdown	Power turns off after a defined time period – explained on page 14
Safe reboot	Reboots after a defined time period – explained on page 14

Switching outlets on/off

Click the icon outlet to turn it on/off. See Figure 4.

To switch all outlets on/off, click the All On/Off buttons. See Figure 4.

9. Information - General

From the Information section of the menu click **General**. The System Status window appears. See Figure 5.

System Status	
System information	
Firmware Version	1.5.SMP.RPS
Device Number	3925883510
System Name	UPS Agent
System Contact	Administrator
Location	My Office
System Time	2005/12/01 14:31:58
Uptime	8 day(s) 20:05:50
Network Status	
MAC Address	00:03:EA:00:3A:76
Connection Type	Auto Sense
IP Address	192.168.200.246

Figure 5 System Information window

System Information / Network Status

Here you will find general information about the system and the network status.

The MAC address is the SNMP card MAC address.

10. Environment

From the menu click **Environment**. The Environment Status window appears, see Figure 6. The temperature and humidity values of the environment appear here. When these go too high or low, you can automatically send a notification to take action. This is further explained on pages 15 and 17.

Environment Status	
Refresh Status every	10 seconds
Item	**Status**
Environment Temperature	24.3C (75.7F)
Environment Humidity	26 %

Figure 6 Environment Status window

Refresh Status every – from the drop-down menu choose a time period to refresh the temperature and humidity statuses.

11. Network

From the menu click Network. The Network Configuration window appears. See Figure 7.

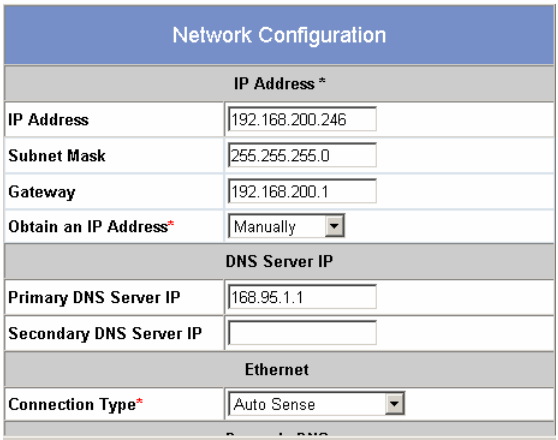

Figure 7 Network Configuration window

IP Address

The IP Address was configured with the SNMP Utility. You can change them here manually or via DHCP.

RPS reboots after any of the above are changed.

DNS Server IP

Primary DNS Server IP / Secondary DNS Server IP - RPS uses the secondary DNS Server IP address when the Primary DNS Server IP address is not working.

Ethernet

Connection Type – configure the network card parameters to match the network switch.

Dynamic DNS

Services Provider – Choose a service provider from the Drop-down list.

Domain Name – Type the Domain Name.

Login Name / Password - Type the Login Name and Password

Use external STUN server to get Public IP to register – Choose yes or no. if yes, then type the primary and secondary STUN server IPs.

PPPoE

Where you want to connect to the RPS via a modem, from the drop-down menu choose to connect always to the Point-to-Point Protocol over Ethernet (PPPoE).

If you choose to connect always, type the PPPoE Login name and password.

12. SNMP

From the menu click SNMP. The SNMP settings appear, see Figure 8.

Here you configure the SNMP settings to be used by an NMS (Network Management System). (Eg: SNMPC or HP Openview).

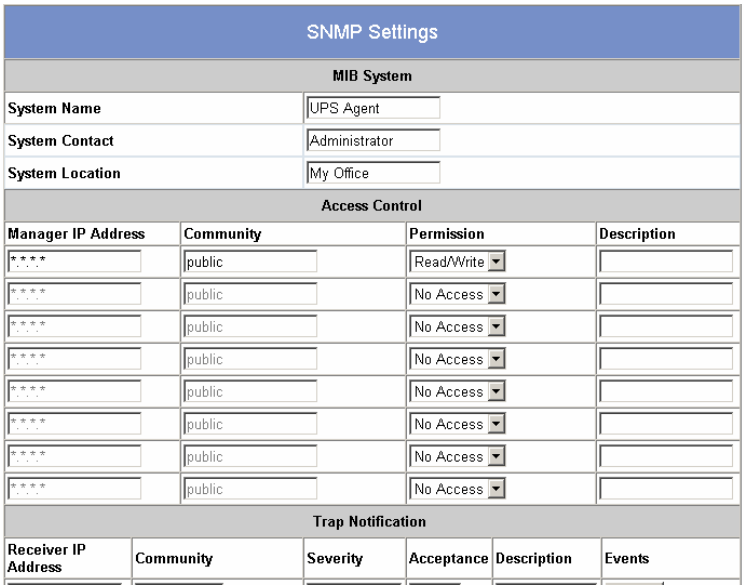

Figure 8 SNMP Settings

MIB System

System Name - type a name for the RPS.

System Contact - type the name of the administrator.

System Location – type the RPS location.

Access Control

Manager IP Address - Set the IP address from which the administrator can manage the RPS. You can have up to 8 IP addresses. *.*.*.* is the default setting without any access restriction for IP.

Community - Set a Community name for NMS. The community name has to be the same as the setting in NMS.

Permission - Set permissions for users. Options are Read, Read/Write, and No Access.

Description - Type any relevant information.

Trap Notification

Receiver IP Address - Set the receivers IP address for receiving traps sent by RPS. You can have up to 8 IP addresses.

Community - Set a Community name for NMS. The community name has to be as the same as the setting in NMS.

Severity - Set Trap receiver levels. There are three possible levels:

- Information: To receive all traps.
- Warning: To receive only "warning" and "severe" traps.
- Severe: To receive only "severe" traps. (Please refer to NMS manual for Trap levels.)

Acceptance – Choose Yes to receive traps, choose no to not receive traps.

Description – For notes.

Events - Select events for RPS to send traps. Click Select to open an Events List. See Figure 9. Check the desired event Traps and click **Apply**.

RPS Events	Yes	No
RPS Communication Lost	◉	○
Outlet On	◉	○
Outlet Off	◉	○
Outlet Reboot	◉	○
Outlet Fault	◉	○
ENV Events	**Yes**	**No**
Environmental Temperature Overrun	◉	○
Environmental Temperature Underrun	◉	○
Environmental Humidity Overrun	◉	○
Environmental Humidity Underrun	◉	○

Select All | Clear All | Apply

Figure 9 Events List

13. Email

From the menu click Email. The Email window appears, see Figure 10.

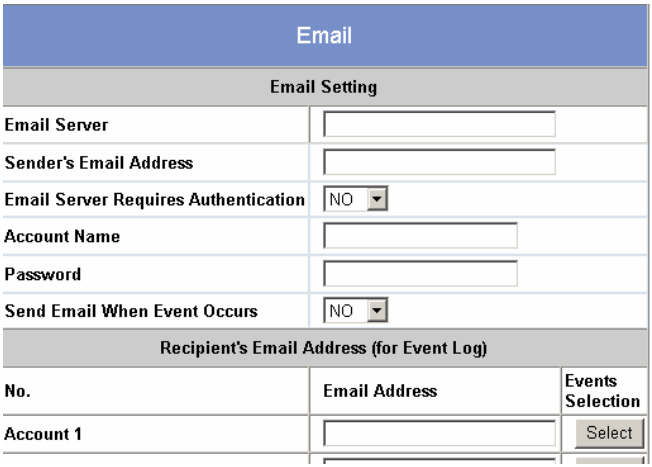

Figure 10 Email window

Email Setting

Here you set up the email addresses that will receive notifications of trigger events, such as when humidity and temperature highs/lows are reached.

Email Server – Type the RPS's Email server address.

Sender's Email Address - Type the RPS's Email address.

Email Server Requires Authentication – where Email server requires an account name and password choose yes, and type the **Account Name** and **Password**.

Send Email When Event Occurs - select yes to automatically send an email when an event occurs.

Recipient's Email Address (for Event Log) - Type up to 8 Email addresses that will receive warning emails when events occurs.

Click Select to open a Select Events List and select the desired events. See Figure 9.

Recipient's Email Address (for Daily Report) - Type up to 4 Email addresses that will receive Daily email Reports when an event occurs.

Send Email for Daily Report – If you choose yes, type a particular time to send a Daily Report.

14. PPP

Where you want to connect to the RPS via an analogue modem you must configure the PPP (Point-to-Point Protocol). From the menu click PPP. The PPP window appears, see Figure 11.

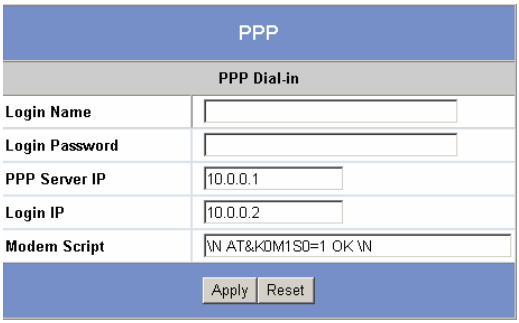

Figure 11 PPP window

Type the PPP dial up information - login name and password. The **PPP Server IP** is the PPS IP, and the **Login IP** is the client IP.

15. User settings

From the menu click User Settings. The User settings window appears see Figure 12. Here you define user permissions. There are 3 types:

- Control – control all power outlets and configuration settings
- View only – view the RPS Web interface only without any control options
- No Access – Block an existing Username +password from accessing the system

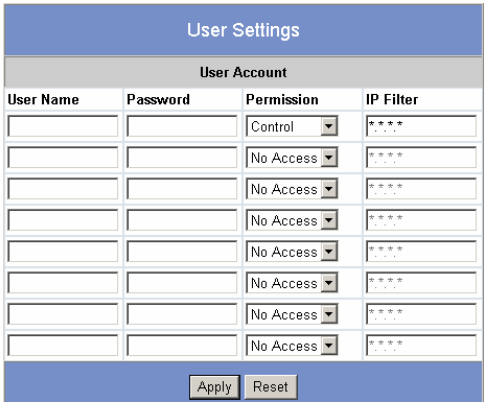

Figure 12 User Settings

User Account

User Name / Password - Type up to different 8 user names and passwords that can be used to access the RPS Web interface.

Permission – Choose the user's permission No access/View only/Control.

IP Filter – To manage RPS from any IP address, leave it as *.*.*.*.For the user to manage RPS from a specific IP address type it here.

16. System Time

From the menu click System Time. The System Time window appears, see Figure 13. You need to set the system time to enable automatic on/off actions of outlets that you schedule to take place at a particular time of day. See page 16.

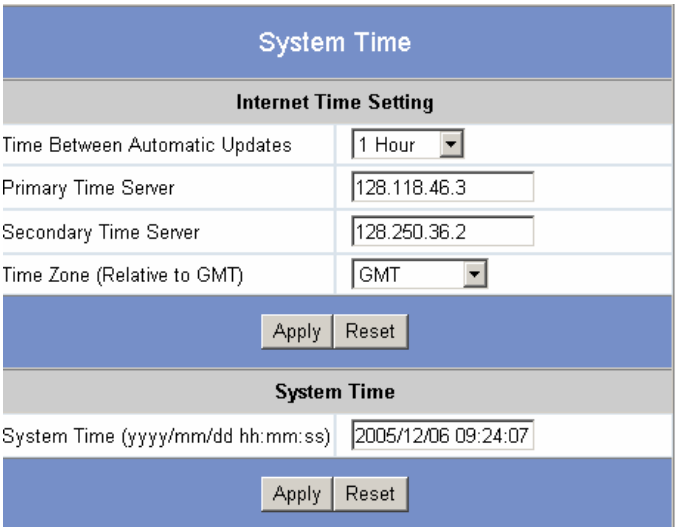

Figure 13 System time

You can set the system time automatically via the Internet, or manually.

Internet Time Setting

Time Between Automatic Updates – Choose a time period from the Drop-down list.

Primary Time Server / **Secondary Time Server** - Set a Primary and Secondary Time Server.

Time Zone (Relative to GMT) - Select your time zone.

System Time (mm/dd/yyyy hh:mm:ss) – set the system time manually.

Click **Apply** to apply changes.

17. RPS Setting

From the menu click RPS Setting. The RPS Setting window appears, see Figure 14.

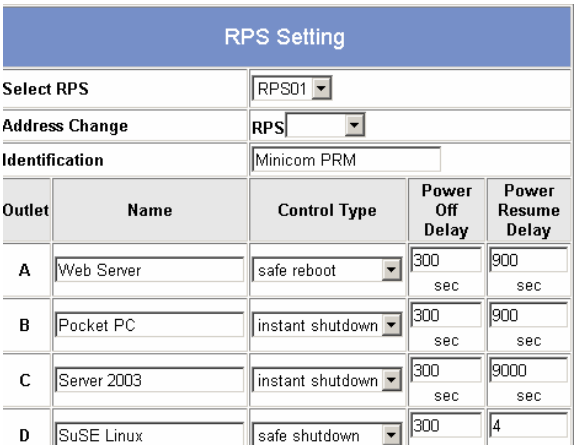

Figure 14 RPS Setting window

Here you change RPS ID numbers (when relevant), give each power outlet a name and define the type of power control.

Select RPS - When there are cascaded RPS units select the desired RPS here. The outlets of that RPS then appear.

Address Change - When there are cascaded RPS units you must give each RPS unit a new ID number. By default the units come with ID no. RPS00. This must be changed for **all** cascaded units.

Changing the Manager ID number: Before connecting any Slave units, change the Manager unit's ID no. to RPS01.

To change the Slave ID numbers:

1. Connect the Slave units to the Manager unit one at a time.
2. In the **Select RPS** box, select the Slave (RPS00).
3. In the **Address Change** box select a new ID no. (RPS2-16).
4. Repeat this process for each Slave.

Identification – Type a description of the RPS unit e.g. Server room.

Outlet - Name - Type a name for each outlet. E.g. Web server.

Control Type- Choose what happens when you turn off the outlet from the following options:

- **Instant shutdown:** The power shuts down instantly.
- **Safe shutdown:** Sends a shutdown UPS command to the computer. The outlet power turns off after a time period you define in the Power Off Delay box
- **Safe reboot:** Sends a shutdown UPS command to the computer. The outlet power turns off and then reboots after a time period you define in the Power Resume Delay box

Click **Apply** to save changes.

18. RPS Action

From the menu click RPS Action. The RPS Action window appears, see Figure 15. This page shows the trigger events for specific actions to occur. For example if the temperature is too high 1 or all outlets can be powered off.

RPS Action

No.	RPS	Outlet	Outlet Action	Events	Events Action	Delay Second (s)	Modify
1	RPS01	ALL Outlet	OFF	Environmental Temperature Overrun	Occur	0	[Delete]
2	RPS01	OutletH	ON	Environmental Temperature Overrun	Occur	0	[Delete]
3	RPS03	OutletH	ON	Environmental Temperature Underrun	Occur	0	[Delete]
4	RPS01	ALL Outlet	OFF	Environmental Temperature Overrun	Occur	900	[Delete]

New

Figure 15 RPS Action window

To add a trigger event:

Click **New**. The RPS Action Configuration window appears, see Figure 16.

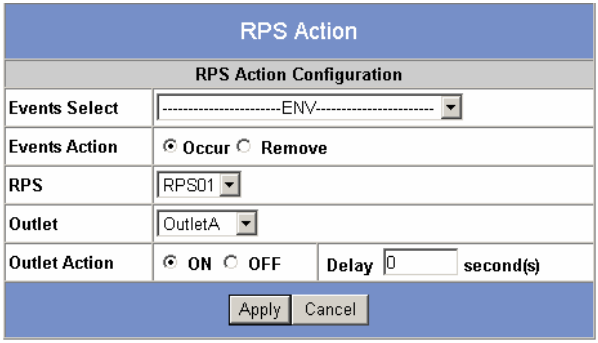

Figure 16 RPS Action Configuration

Events Select - Select the desired temperature or humidity event from the Drop-down list.

Events Action - Choose **Occur** to trigger the action or **Remove** to delete it. (Can also be deleted from the RPS Action window).

RPS - Select the desired RPS.

Outlet - Select the desired outlet.

Outlet Action - Select on or off.

Delay – Type a time delay before the action occurs (when desired).

Click **Apply**. The event appears in the RPS Action window.

19. RPS Schedule

From the menu click RPS Schedule. The RPS Schedule window appears, see Figure 17. This window shows the schedule of automatic on/off actions.

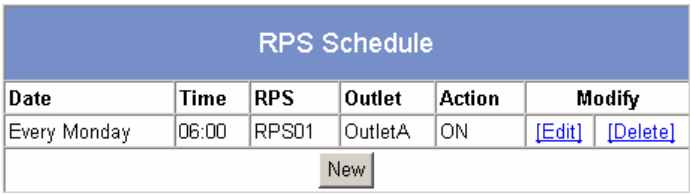

Figure 17 RPS Schedule window

To add an action:

1. Click **New**. The New Schedule Event window appears, see Figure 18.

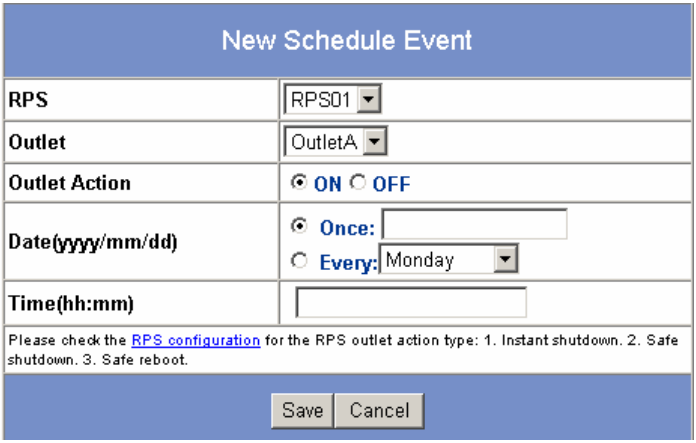

Figure 18 New Schedule Event window

RPS/Outlet – Select the desired RPS and outlet.

Outlet action – Select On or Off

Date – Check the desired option. **Once** for a 1 time event – type the date in the style shown (yyyy/mm/dd). Or **Every** for a weekly event. Select the day from the Drop-down menu.

Time - Type the time for the event to occur in the style shown (hh.mm).

Note: Ensure that the desired action type (Instant shutdown, safe shutdown or safe reboot) is selected in the RPS Configuration window.

Click **Save**. The event appears in the RPS Schedule window.

Note: In the RPS Schedule window you can click **Edit** to edit the event, or **Delete** to remove an event.

20. ENV Setting

From the menu select ENV Setting. The Environment Setting window appears, see Figure 19. Here you can set maximum and minimum temperature and humidity values. When the environmental conditions go above or below the defined values, the status appears red and any pre-configured triggers activate, as defined in the RPS Action window, see page 15 above.

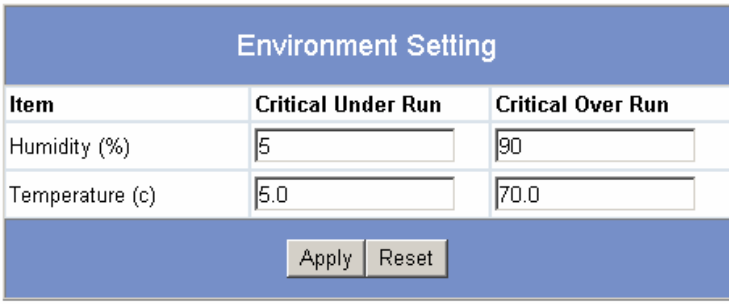

Figure 19 Environment Setting window

To define the temperature and humidity limitations:

Type the required values and click **Apply**.

21. Save/Restore Settings

From the menu click Save/Restore Settings. The Save/Restore Settings window appears see Figure 20. Here you can save a current configuration, or restore a previously saved configuration.

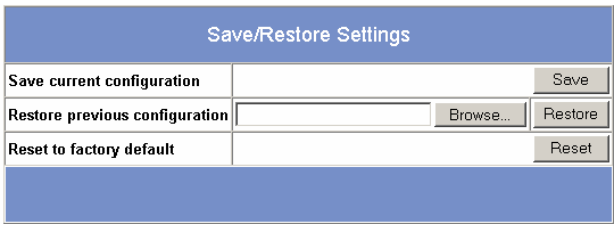

Figure 20 Save/Restore Settings window

Save current configuration – Click **Save** to save current configuration.

Restore previous configuration – Click **Browse** to find a previously saved configuration and then click **Restore**.

Reset to factory default – Click **Reset** to remove all configured settings.

22. Event Log

From the menu click Event Log. The Event Log window appears, see Figure 21.

Event Log

Date/Time	Device	Event
2005/12/07 12:32:36	UPS	The TimeServer connection failed!
2005/12/06 20:27:18	UPS	The TimeServer connection failed!
2005/12/06 14:22:05	RPS	RPS02 OutletH On
2005/12/06 14:22:05	RPS	RPS02 OutletG On
2005/12/06 14:22:05	RPS	RPS02 OutletF On
2005/12/06 14:21:55	RPS	RPS02 OutletH Off
2005/12/06 14:21:55	RPS	RPS02 OutletG Off
2005/12/06 14:21:55	RPS	RPS02 OutletF Off
2005/12/06 14:21:05	RPS	RPS03 OutletE On
2005/12/06 14:20:56	RPS	RPS03 OutletE Off
2005/12/06 14:20:39	RPS	RPS03 OutletH Off
2005/12/06 13:55:58	RPS	RPS07 OutletH On
2005/12/06 13:55:58	RPS	RPS07 OutletG On

Figure 21 Event Log

The following events can appear:

UPS

Scheduled Shutdown / Load Overrun / Communication Lost / Turn Off / AC Power Failed / Battery Low.

RPS

RPS Communication Lost / Outlet On / Outlet Off / Outlet Reboot / Outlet Fault

ENV

Temperature Overrun / Underrun. Humidity Overrun / Underrun

Up to 500 events can be recorded. When this limit is reached the earlier events are deleted and new events are logged.

23. Save Event Log

From the menu click Save Event Log to download the current event log in an Excel worksheet format.

24. Telnet configuration

RPS supports multiple Network Management systems and LAN protocols.

To configure a Telnet application:

1. From the Windows Start menu click Run.
2. Type the Telnet RPS IP Address in the manner as shown in the Run box below.

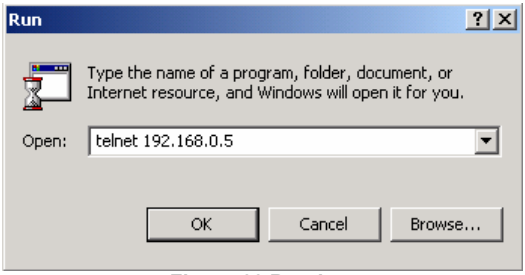

Figure 22 Run box

3. Click **OK**. The Telnet Connection window appears. See Figure 23.

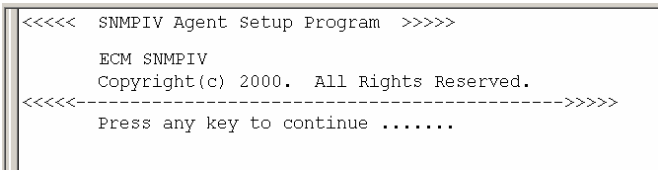

Figure 23 Telnet connection

4. Press **Enter**. The Telnet screen appears.
5. If there is a User Name and Password, type them and press **Enter**. The Telnet Main Menu appears. See Figure 24.

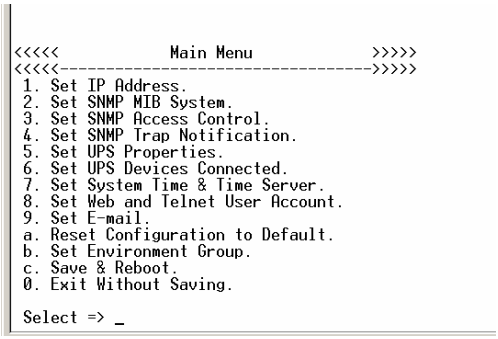
<<<<< Main Menu >>>>>
<<<<<----------->>>>>
1. Set IP Address.
2. Set SNMP MIB System.
3. Set SNMP Access Control.
4. Set SNMP Trap Notification.
5. Set UPS Properties.
6. Set UPS Devices Connected.
7. Set System Time & Time Server.
8. Set Web and Telnet User Account.
9. Set E-mail.
a. Reset Configuration to Default.
b. Set Environment Group.
c. Save & Reboot.
0. Exit Without Saving.
Select => _

Figure 24 Telnet Main Menu

Set IP Address - Setup IP Address, Gateway Address, Subnet Mask parameters.

Set SNMP MIB System - Set the MIB system group parameters.

Set SNMP Access Control - Set the Manager IP, Community, Access Permission.

Note:The configuration of 'Set SNMP Access Control' is only for the SNMP Network Manager.

Set SNMP Trap Notification - If you want to use a computer and perform the 'Trap' function of SNMP manager to manage RPS through SNMP, the IP address of the computer must be added to this list.

Note:The configuration of 'Set SNMP Trap Receiver' is only for the SNMP Network Manager.

Follow the rest of the instructions as set out on the Telnet Main Menu.

25. Updating the firmware

Firmware updates can be found on our Website www.minicom.com. Please check periodically.

To update the firmware:

1. Open the SNMP Utility (explained in the Quick Installation Guide) and click **Download Firmware**. The **Firmware Download box** appears.
2. Browse to locate the new firmware file (*.bin).
3. Press **Start**. During the upgrade, the RPS red and yellow LEDs flash alternately. On completion the RPS reboots.

Note: If uploading was interrupted, repeat the firmware update process.

User Guide Feedback

Your feedback is very important to help us improve our documentation. Please email us comments at: ug.comments@minicom.com

Please include the following information when commenting: Guide name, part number and version number (as appears on the front cover).

E.g. Remote Power Switch Operating Guide, 5UM20161, V1

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